



Stilgebauer Award 2010 – Application Form

Please provide the information below. This application form needs to accompany the Project Summary for the project to be considered for a Stilgebauer award. Individuals or teams may complete the required information for their own project(s) or for another teacher or group's project	
Project Name: Rhodes Wind Turbine Project	
School Regional Area	<input type="checkbox"/> North Cook <input type="checkbox"/> South Cook <input checked="" type="checkbox"/> West 40
District Name	Rhodes School District
District No.	84.5
Name(s)-Teams with up to 5 members will be accepted! Include all names.	Email Address(s)
* John Mertes	* jmertes@rhodes.k12.il.us
* Rebecca Prince	* rprince@rhodes.k12.il.us
*	*
*	*
*	*
School Name	Rhodes School
School Street Address	8931 West Fullerton Ave.
School City, State, Zip	River Grove, IL 60171
School Phone Number	(708) 453-6813
If you are providing information to nominate another teacher or group, please provide your information below (if different from those named above).	
Nominator's Name	
Nominator's Phone #	
Best Contact Time	
Nominator's Email	

Please attach the Project Summary to this form and send to Learning Technology Center One Central at 2701 W. Washington Blvd., 2nd Floor, Bellwood, IL 60104

Section 2 Project Abstract

Rhodes School became the first school in the United States to install a wind turbine as an urban location. The project was 100% by two grants written by staff and students. The turbine is monitored 24/7 via a website showing real-time data and staff and students are now keeping a blog to track events and observations.

Section 3 - Grade Levels Middle School (6-8)

Section 4 - Subject Areas Language Arts, Science, Math, Fine Arts, Technology as the delivery tool.

Sections 5-10 are all included in the following narrative.

Rhodes School has been very active in teaching about “green energy.” We wanted to take the next step in teaching our kids about clean energy. In the fall of 2006, we began the process of installing the first ever wind turbine in an urban school setting in the United States. However, we started having problems as this new technology was scary to some in our area. Plus, funding also became an issue as if we wanted to get it done; we needed a way to pay for it without using school dollars.

So in that fall of 2006, we started writing grants to anyone I could find. For over 18 months, all we got was rejections and we thought by the project was about to end. Then, like a lightning bolt, in the spring of 2008, we received a grant from BP (\$10,000) to finance half the project. While it did not pay for it all, having a partner provided this project with the creditability to get another. With BP’s help we received the additional funds from the Illinois Clean Energy Foundation (\$12,000) in the fall of 2008 and the project was underway.

Of course, even with the funding in place, we still had issues with getting everyone on board with this project, then a quick and very cold winter, but on a sunny April day, the turbine was installed after three long years of work. All Chicago media turned out and copies of their news bytes are included.

Yes, there are a few schools in some parts of the US that have access to turbines, but these are the massive types that could never be applicable in an urban setting or their school is in a rural environment. Therefore, kids in big cities would never see firsthand what a wind turbine was or how it worked, making the concept very difficult to understand and making no connection to their own life experiences, which is the key to higher level understanding of any topic. The United States census lists that 80% of the population is centered in urban environments. Therefore, 80% of our kids never get to see a turbine first hand. Our turbine starts changing this inequity. While Science would be the most relevant subject area, this project crosses over into areas of Language Arts, Mathematics, and even Fine Arts. Plus, the use of technology provides the tool to deliver our message.

However, that is just the beginning. As our program became more successful, our students and staff added more and more features to make the project multi-dimensional. The additions include creating models to display our project, presenting our topic (students and staff) at numerous conferences (state and national) including Tech 2009, competing in National contests, creating partnerships with local groups, schools, local governmental offices, and even receiving endorsement letters from all levels of Illinois government and even correspondence from the White House about our project.

Since our installation date, we have received many emails from different groups inquiring how we accomplished this. We have also had visits from colleges, other schools, and businesses as they want to install one of their own. We have also gone international as a school from New Zealand contacted us for information about our turbine.

To help others, we have created a document called – **A guide to install a Wind Turbine**. This guide lists each component and the steps we went through in this process. What worked, what did not, what we learned, who helped us along the way and any surprises that we had to deal with along the way. It also listed who helped make this project work. A copy of this guide is included in this report, along with copies of press and pictures of some of the events.

In addition, we are now maintaining a blog for the world to track our progress. The students and staff keep it up to date with entries dealing with production, observations, groups contacting us, as well as future plans. The address is <http://rhodesetam.blogspot.com>

When the project idea was presented to our middle school, virtually everyone wanted to be involved. From our student population, a group was created and the students developed various activities based in the learning standards to accomplish our goal. Our group wrote grants to BP and the Illinois Clean Energy Foundation for funding (S.Goal 3.B.a-3b) (NETS Goal 1 and 2). They also created press releases with the staff and promotional materials (S.Goal.26.B.3d) (NETS Goal 3). We sent emails to all area schools via several listservs and have created a blog about the project. (NETS Goal 2) The group worked together with the Rhodes

Staff to create speeches for presentations at local conferences/conventions (teamwork). The students are now taking the raw data and creating mathematical charts (S. Goal 10.A.3a) (NETS Goal 4 and 6), and researched the Internet about the Green Energy to create a PowerPoint productions (S. Goal 14.A.3-14.F.3) (NETS Goal 1). We will use these presentations from Rhodes students and staff to present at Tech 2010 as we did for Tech 2009 (S. Goal 4.B.3a) (NETS Goal 2).

Through our efforts, on the day of installation, the entire Chicagoland media came to Rhodes. While, the staff was interviewed, it was the kids making the biggest impact, as they demonstrated our project and answered questions from reporters. (S. Goal 3.C.3b) (NETS Goal 5). Copies of many of these are included with this application, as well as, posted on our blog.

From that first day, we have never looked back. As mentioned, our team created a blog for schools to keep up with our project. Our students help design it, test it, and use it. (S. Goal C.3b) (NETS Goal 6). Both staff and students also respond to requests for information from different groups and schools. (S. Goal 10.A.3a) (NETS Goal 6).

In addition, our students are competing in two prestigious National Competitions. First, in 2010, students are putting together an application for the President's Environmental Excellence Awards (PEYA). This includes writing, editing and following the application parameters. (S.Goal 3.B.a-3b) (NETS goal 1 and 2). The second was the 2010 Christopher Columbus Awards.

As for the specific technology used, Dell computers running windows XP were used for all aspects of the project. Software to write letters, creating brochures, designing web pages, researching the Internet, database creation, as well as created PowerPoint Presentations (Office 2007) were all part of this on-going project. Plus, we took many pictures using our digital cameras that have been posted on our website. In addition, this project is an extension our partnership with BP and the Illinois Clean Energy Community Foundation, as they provided the funds for the project. The technology, if you will, served as a plane with the students being the pilots.

We have accomplished a lot. Nevertheless, all worthwhile projects need to be based on the curriculum. While this project is a lesson that traditionally would be dealt in a Science class, it also is a cross-curricular project including Language Arts as so many of the steps involved writing and giving speeches. As listed above, our projected is directly connected to the Illinois Learning Standards and the National Educational Technology Standards for Students. However, in Illinois ISAT scores are used to hold schools accountable and to that end, our scores in the most prevalent area of Science exceeded State averages in our middle school by over 14 percentage points. (See included report card page)

Yet, as we reflected on our program, we wanted to include it as part of larger theme of environmental education. In this effort, the students use this new turbine with our solar panels, recycling program, as well as, the now being able to make connections first hand. Students now use this turbine not only in their lessons on wind Energy, but they now incorporate the data and create mathematical charts and make predictions from this data. (S. Goal 10.A.3a). Our middle school students are now developing PowerPoint Presentations about alternative energy (NETS Goal 6) and show these presentations to both students and staff. Again, visit our website to see the both the solar array and wind turbine in real-time. (www.rhodes.k12.il.us)

Plus as we reflect on how to make this project even better, one must understand the roles of the student and teacher. The only true aspect of this project that was 100% teacher based was in selecting a contracted installer as this requires contacts. This required legal signatures. From that point, teacher involvement was extremely limited. The students not only directed the activities; they also adjusted and changed them as needed. For example, students created the slides on the PowerPoint presentation for the Tech 2009 and for the upcoming Tech 2010. Students designed the handouts on the computer for each demonstration. It was the students speaking and answering questions to the different schools, the students were the leaders; our role as teachers was to help guide (or really follow) them. However, since all of this was new to both of us, we learned a lot from each other. Yet, it was the teamwork between teachers, students, but moreover teachers and students that was the most inspiring. The Illinois Learning Standards stress the importance of teamwork and this project was the picture perfect example of it. This attribute of the project was what we loved the most, working together towards our goal. What better way to learn!